

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

TQ DELTA, LLC,

Plaintiff

v.

ZHONE TECHNOLOGIES, INC.,

Defendant

CASE NO. 13-CV-1836-RGA

JURY TRIAL DEMANDED

**ANSWER, AFFIRMATIVE DEFENSES, AND COUNTERCLAIMS TO
FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Defendant Zhone Technologies ("Zhone"), through its counsel, hereby answers Plaintiff TQ Delta, LLC's ("TQ Delta") First Amended Complaint for Patent Infringement. To the extent not explicitly admitted, all allegations of the First Amended Complaint are denied.

THE PARTIES

1. Zhone lacks sufficient knowledge or information to form a belief as to the allegations in this paragraph and on that basis denies them.
2. Zhone admits that it is a corporation organized under the laws of the State of Delaware with a principal place of business at 7195 Oakport Street, Oakland, CA 94621.

JURISDICTION AND VENUE

3. Zhone admits that the First Amended Complaint purports to state a claim for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*
4. Zhone admits that this Court has subject matter jurisdiction over this dispute under 28 U.S.C. §§ 1331 and 1338(a).

5. Zhone admits that it is incorporated in Delaware and that this Court has personal jurisdiction over it for the purposes of this action.

6. Zhone admits that it is incorporated in Delaware and that the Complaint purports to base venue in this District on 28 U.S.C. §§ 1391 and 1400(b). Zhone denies that this District is the most appropriate or convenient forum in which to lay venue in this case.

BACKGROUND

7. Zhone lacks sufficient knowledge or information to form a belief as to the allegations in this paragraph and on that basis denies them.

8. Zhone admits that digital subscriber line (“DSL”) technology may be used to provide broadband access to data networks such as the Internet via a local telephone network. Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

9. Zhone admits that TQ Delta purports to own patents previously owned by Aware, Inc. that are essential to certain standards. Except as admitted, Zhone denies the allegations of this paragraph.

10. Zhone admits that it makes, sells, offers for sale, and/or imports some consumer premise equipment products, including modems, gateways, routers, and integrated access devices that Zhone understands operate in accordance with certain standards. Zhone further admits that it makes, sells, offers for sale, and/or imports some central office equipment products, including DSLAMs, MSANs, and line cards that Zhone understands operate in accordance with certain standards. Except as admitted, Zhone denies the allegations of this paragraph.

11. Zhone admits that it received letters purportedly sent on behalf of TQ Delta bearing the dates June 26, 2013 and July 12, 2013. Zhone avers that the letters speak for themselves. Except as admitted and averred, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

12. Zhone admits that it received a letter purportedly sent on behalf of TQ Delta bearing the date August 9, 2013. Zhone avers that the letter speaks for itself. Except as admitted and averred, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

13. Zhone denies the allegations of this paragraph. Zhone explicitly denies that it infringes any patent in TQ Delta's patent portfolio.

14. Admitted.

15. Zhone admits that it has not requested from TQ Delta a license to any patent portfolio. Zhone explicitly denies that it infringes any patent in this portfolio or that it requires a license.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 8,090,008

16. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

17. Zhone admits that on its face United States Patent No. 8,090,008 ("the '008 Patent") is entitled "System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System" and bears an issue date of January 3, 2013. Zhone further admits that Exhibit 1 to the Complaint purports to be a copy of the '008 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

18. Zhone denies the allegations of this paragraph.

19. Zhone denies the allegations of this paragraph.

20. Zhone denies the allegations of this paragraph.

21. Zhone denies the allegations of this paragraph.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 8,073,041

22. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

23. Zhone admits that on its face United States Patent No. 8,073,041 (“the ’041 Patent”) is entitled “System and Method for Descrambling the Phase of the Carriers in a Multicarrier Communications System” and bears an issue date of December 6, 2011. Zhone further admits that Exhibit 2 to the Complaint purports to be a copy of the ’041 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

24. Zhone denies the allegations of this paragraph.

25. Zhone denies the allegations of this paragraph.

26. Zhone denies the allegations of this paragraph.

27. Zhone denies the allegations of this paragraph.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 7,292,627

28. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

29. Zhone admits that on its face United States Patent No. 7,292,627 (“the ’627 Patent”) is entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System” and bears an issue date of November 6, 2007. Zhone further admits that Exhibit 3 to the Complaint purports to be a copy of the ’627 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

30. Zhone denies the allegations of this paragraph.

31. Zhone denies the allegations of this paragraph.

32. Zhone denies the allegations of this paragraph.

33. Zhone denies the allegations of this paragraph.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 7,471,721

34. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

35. Zhone admits that on its face United States Patent No. 7,471,721 (“the ’721 Patent”) is entitled “System and Method for Scrambling the Phase of the Carriers in a Multicarrier Communications System” and bears an issue date of December 30, 2008. Zhone further admits that Exhibit 4 to the Complaint purports to be a copy of the ’721 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

36. Zhone denies the allegations of this paragraph.

37. Zhone denies the allegations of this paragraph.

38. Zhone denies the allegations of this paragraph.

39. Zhone denies the allegations of this paragraph.

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 8,218,610

40. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

41. Zhone admits that on its face United States Patent No. 8,218,610 (“the ’610 Patent”) is entitled “System and Method for Descrambling the Phase of the Carriers in a Multicarrier Communications System” and bears an issue date of July 10, 2012. Zhone further admits that Exhibit 5 to the Complaint purports to be a copy of the ’610 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

42. Zhone denies the allegations of this paragraph.

43. Zhone denies the allegations of this paragraph.

44. Zhone denies the allegations of this paragraph.

45. Zhone denies the allegations of this paragraph.

COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 8,355,427

46. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

47. Zhone admits that on its face United States Patent No. 8,355,427 (“the ’427 Patent”) is entitled “System and Method for Descrambling the Phase of Carriers in a Multicarrier Communications System” and bears an issue date of January 15, 2013. Zhone further admits that Exhibit 6 to the Complaint purports to be a copy of the ’427 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

48. Zhone denies the allegations of this paragraph.

49. Zhone denies the allegations of this paragraph.

50. Zhone denies the allegations of this paragraph.

51. Zhone denies the allegations of this paragraph.

COUNT VII – INFRINGEMENT OF U.S. PATENT NO. 7,453,881

52. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

53. Zhone denies that on its face United States Patent No. 7,453,881 (“the ’881 Patent”) is entitled “Systems and Methods for Multi-pair ATM Over DSL.” On its face the Patent is entitled “Systems and Methods for Multi-pair ATM Over DSL.” Zhone admits that the ’881 Patent bears an issue date of November 18, 2008. Zhone further admits that Exhibit 7 to the Complaint purports to be a copy of the ’881 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

54. Zhone denies the allegations of this paragraph.

55. Zhone denies the allegations of this paragraph.

56. Zhone denies the allegations of this paragraph.

57. Zhone denies the allegations of this paragraph.

COUNT VIII – INFRINGEMENT OF U.S. PATENT NO. 7,809,028

58. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

59. Zhone denies that on its face United States Patent No. 7,809,028 (“the ‘028 Patent”) is entitled “Systems and Methods for Multi-pair ATM Over DSL.” On its face the patent is entitled “Systems and Methods for Multi-pair ATM Over DSL.” Zhone admits that the ‘881 Patent bears an issue date of October 5, 2010. Zhone further admits that Exhibit 8 to the Complaint purports to be a copy of the ‘028 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

60. Zhone denies the allegations of this paragraph.

61. Zhone denies the allegations of this paragraph.

62. Zhone denies the allegations of this paragraph.

63. Zhone denies the allegations of this paragraph.

COUNT IX – INFRINGEMENT OF U.S. PATENT NO. 7,978,706

64. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

65. Zhone admits that on its face United States Patent No. 7,978,706 (“the ‘706 Patent”) is entitled “Combining Multiple DSL Transceivers for a High Data Rate Connection” and bears an issue date of July 12, 2011. Zhone further admits that Exhibit 9 to the Complaint purports to be a copy of the ‘706 Patent. Except as admitted, Zhone lacks sufficient knowledge

or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

66. Zhone denies the allegations of this paragraph.

67. Zhone denies the allegations of this paragraph.

68. Zhone denies the allegations of this paragraph.

69. Zhone denies the allegations of this paragraph.

COUNT X – INFRINGEMENT OF U.S. PATENT NO. 8,422,511

70. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

71. Zhone admits that on its face United States Patent No. 8,422,511 (“the ’511 Patent”) is entitled “Systems and Methods for Multi-pair ATM Over DSL” and bears an issue date of April 16, 2013. Zhone further admits that Exhibit 10 to the Complaint purports to be a copy of the ’511 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

72. Zhone denies the allegations of this paragraph.

73. Zhone denies the allegations of this paragraph.

74. Zhone denies the allegations of this paragraph.

75. Zhone denies the allegations of this paragraph.

COUNT XI – INFRINGEMENT OF U.S. PATENT NO. 7,796,705

76. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

77. Zhone admits that on its face United States Patent No. 7,796,705 (“the ’705 Patent”) is entitled “DMT Symbol Repetition in the Presence of Impulse Noise” and bears an issue date of September 14, 2010. Zhone further admits that Exhibit 11 to the Complaint purports to be a copy of the ’705 Patent. Except as admitted, Zhone lacks sufficient knowledge or

information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

78. Zhone denies the allegations of this paragraph.

79. Zhone denies the allegations of this paragraph.

80. Zhone denies the allegations of this paragraph.

81. Zhone denies the allegations of this paragraph.

COUNT XII – INFRINGEMENT OF U.S. PATENT NO. 7,889,784

82. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

83. Zhone admits that on its face United States Patent No. 7,889,784 (“the ’784 Patent”) is entitled “Multicarrier Modulation Messaging for SNR Per Subchannel During Showtime Information” and bears an issue date of February 15, 2011. Zhone further admits that Exhibit 12 to the Complaint purports to be a copy of the ’784 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

84. Zhone denies the allegations of this paragraph.

85. Zhone denies the allegations of this paragraph.

86. Zhone denies the allegations of this paragraph.

87. Zhone denies the allegations of this paragraph.

COUNT XIII – INFRINGEMENT OF U.S. PATENT NO. 7,835,430

88. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

89. Zhone admits that on its face United States Patent No. 7,835,430 (“the ’430 Patent”) is entitled “Multicarrier Modulation Messaging for Frequency Domain Received Idle Channel Noise Information” and bears an issue date of November 16, 2010. Zhone further

admits that Exhibit 13 to the Complaint purports to be a copy of the '430 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

90. Zhone denies the allegations of this paragraph.

91. Zhone denies the allegations of this paragraph.

92. Zhone denies the allegations of this paragraph.

93. Zhone denies the allegations of this paragraph.

COUNT XIV – INFRINGEMENT OF U.S. PATENT NO. 7,570,686

94. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

95. Zhone admits that on its face United States Patent No. 7,570,686 (“the ‘686 Patent”) is entitled “Systems and Methods For Establishing a Diagnostic Transmission Mode and Communicating Over the Same” and bears an issue date of August 4, 2009. Zhone further admits that Exhibit 14 to the Complaint purports to be a copy of the ‘686 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

96. Zhone denies the allegations of this paragraph.

97. Zhone denies the allegations of this paragraph.

98. Zhone denies the allegations of this paragraph.

99. Zhone denies the allegations of this paragraph.

COUNT XV – INFRINGEMENT OF U.S. PATENT NO. 8,238,412

100. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

101. Zhone admits that on its face United States Patent No. 8,238,412 (“the ‘412 Patent”) is entitled “Multicarrier Modulation Messaging for Power Level Per Subchannel

Information” and bears an issue date of August 7, 2012. Zhone further admits that Exhibit 15 to the Complaint purports to be a copy of the ’412 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

102. Zhone denies the allegations of this paragraph.

103. Zhone denies the allegations of this paragraph.

104. Zhone denies the allegations of this paragraph.

105. Zhone denies the allegations of this paragraph.

COUNT XVI – INFRINGEMENT OF U.S. PATENT NO. 8,432,956

106. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

107. Zhone admits that on its face United States Patent No. 8,432,956 (“the ’2,956 Patent”) is entitled “Multicarrier Modulation Messaging for Power Level Per Subchannel Information” and bears an issue date of April 30, 2013. Zhone further admits that Exhibit 16 to the Complaint purports to be a copy of the ’2,956 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

108. Zhone denies the allegations of this paragraph.

109. Zhone denies the allegations of this paragraph.

110. Zhone denies the allegations of this paragraph.

111. Zhone denies the allegations of this paragraph.

COUNT XVII – INFRINGEMENT OF U.S. PATENT NO. 7,451,379

112. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

113. Zhone admits that on its face United States Patent No. 7,451,379 (“the ’379 Patent”) is entitled “CRC Counter Normalization” and bears an issue date of November 11, 2008. Zhone further admits that Exhibit 17 to the Complaint purports to be a copy of the ’008 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

114. Zhone denies the allegations of this paragraph.

115. Zhone denies the allegations of this paragraph.

116. Zhone denies the allegations of this paragraph.

117. Zhone denies the allegations of this paragraph.

COUNT XVIII – INFRINGEMENT OF U.S. PATENT NO. 8,516,337

118. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

119. Zhone admits that on its face United States Patent No. 8,516,337 (“the ’337 Patent”) is entitled “CRC Counter Normalization” and bears an issue date of August 20, 2013. Zhone further admits that Exhibit 18 to the Complaint purports to be a copy of the ’337 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

120. Zhone denies the allegations of this paragraph.

121. Zhone denies the allegations of this paragraph.

122. Zhone denies the allegations of this paragraph.

123. Zhone denies the allegations of this paragraph.

COUNT XIX – INFRINGEMENT OF U.S. PATENT NO. 7,979,778

124. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

125. Zhone admits that on its face United States Patent No. 7,979,778 (“the ’778 Patent”) is entitled “CRC Counter Normalization” and bears an issue date of July 12, 2011. Zhone further admits that Exhibit 19 to the Complaint purports to be a copy of the ’778 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

126. Zhone denies the allegations of this paragraph.

127. Zhone denies the allegations of this paragraph.

128. Zhone denies the allegations of this paragraph.

129. Zhone denies the allegations of this paragraph.

COUNT XX – INFRINGEMENT OF U.S. PATENT NO. 7,925,958

130. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

131. Zhone admits that on its face United States Patent No. 7,925,958 (“the ’958 Patent”) is entitled “CRC Counter Normalization” and bears an issue date of April 12, 2011. Zhone further admits that Exhibit 20 to the Complaint purports to be a copy of the ’958 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

132. Zhone denies the allegations of this paragraph.

133. Zhone denies the allegations of this paragraph.

134. Zhone denies the allegations of this paragraph.

135. Zhone denies the allegations of this paragraph.

COUNT XXI – INFRINGEMENT OF U.S. PATENT NO. 8,462,835

136. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

137. Zhone admits that on its face United States Patent No. 8,462,835 (“the ’835 Patent”) is entitled “Impulse Noise Management” and bears an issue date of June 11, 2013. Zhone further admits that Exhibit 21 to the Complaint purports to be a copy of the ’835 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

138. Zhone denies the allegations of this paragraph.

139. Zhone denies the allegations of this paragraph.

140. Zhone denies the allegations of this paragraph.

141. Zhone denies the allegations of this paragraph.

COUNT XXII – INFRINGEMENT OF U.S. PATENT NO. 7,978,753

142. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

143. Zhone admits that on its face United States Patent No. 7,978,753 (“the ’753 Patent”) is entitled “Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability” and bears an issue date of July 12, 2011. Zhone further admits that Exhibit 22 to the Complaint purports to be a copy of the ’753 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

144. Zhone denies the allegations of this paragraph.

145. Zhone denies the allegations of this paragraph.

146. Zhone denies the allegations of this paragraph.

147. Zhone denies the allegations of this paragraph.

COUNT XXIII – INFRINGEMENT OF U.S. PATENT NO. 6,445,730

148. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

149. Zhone admits that on its face United States Patent No. 6,445,730 (“the ’730 Patent”) is entitled “Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability” and bears an issue date of September 3, 2002. Zhone further admits that Exhibit 23 to the Complaint purports to be a copy of the ’730 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

150. Zhone denies the allegations of this paragraph.

151. Zhone denies the allegations of this paragraph.

152. Zhone denies the allegations of this paragraph.

153. Zhone denies the allegations of this paragraph.

COUNT XXIV – INFRINGEMENT OF U.S. PATENT NO. 8,437,382

154. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

155. Zhone admits that on its face United States Patent No. 8,437,382 (“the ’382 Patent”) is entitled “Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability” and bears an issue date of May 7, 2013. Zhone further admits that Exhibit 24 to the Complaint purports to be a copy of the ’382 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

156. Zhone denies the allegations of this paragraph.

157. Zhone denies the allegations of this paragraph.

158. Zhone denies the allegations of this paragraph.

159. Zhone denies the allegations of this paragraph.

COUNT XXV – INFRINGEMENT OF U.S. PATENT NO. 7,836,381

160. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

161. Zhone admits that on its face United States Patent No. 7,836,381 (“the ’381 Patent”) is entitled “Computer Readable Medium with Instructions for Resource Sharing in a Telecommunications Environment” and bears an issue date of November 16, 2010. Zhone further admits that Exhibit 25 to the Complaint purports to be a copy of the ’381 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

162. Zhone denies the allegations of this paragraph.

163. Zhone denies the allegations of this paragraph.

164. Zhone denies the allegations of this paragraph.

165. Zhone denies the allegations of this paragraph.

COUNT XXVI – INFRINGEMENT OF U.S. PATENT NO. 7,844,882

166. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

167. Zhone admits that on its face United States Patent No. 7,844,882 (“the ’882 Patent”) is entitled “Resource Sharing in a Telecommunications Environment” and bears an issue date of November 30, 2010. Zhone further admits that Exhibit 26 to the Complaint purports to be a copy of the ’882 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

168. Zhone denies the allegations of this paragraph.

169. Zhone denies the allegations of this paragraph.

170. Zhone denies the allegations of this paragraph.

171. Zhone denies the allegations of this paragraph.

COUNT XXVII – INFRINGEMENT OF U.S. PATENT NO. 8,276,048

172. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

173. Zhone admits that on its face United States Patent No. 8,276,048 (“the ’048 Patent”) is entitled “Resource Sharing in a Telecommunications Environment” and bears an issue date of September 25, 2012. Zhone further admits that Exhibit 27 to the Complaint purports to be a copy of the ’048 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

174. Zhone denies the allegations of this paragraph.

175. Zhone denies the allegations of this paragraph.

176. Zhone denies the allegations of this paragraph.

177. Zhone denies the allegations of this paragraph.

COUNT XXVIII – INFRINGEMENT OF U.S. PATENT NO. 8,495,473

178. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

179. Zhone admits that on its face United States Patent No. 8,495,473 (“the ’473 Patent”) is entitled “Resource Sharing in a Telecommunications Environment” and bears an issue date of July 23, 2013. Zhone further admits that Exhibit 28 to the Complaint purports to be a copy of the ’473 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

180. Zhone denies the allegations of this paragraph.

181. Zhone denies the allegations of this paragraph.

182. Zhone denies the allegations of this paragraph.

183. Zhone denies the allegations of this paragraph.

COUNT XXIX – INFRINGEMENT OF U.S. PATENT NO. 7,831,890

184. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

185. Zhone admits that on its face United States Patent No. 7,831,890 (“the ’890 Patent”) is entitled “Resource Sharing in a Telecommunications Environment” and bears an issue date of November 9, 2010. Zhone further admits that Exhibit 29 to the Complaint purports to be a copy of the ’890 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

186. Zhone denies the allegations of this paragraph.

187. Zhone denies the allegations of this paragraph.

188. Zhone denies the allegations of this paragraph.

189. Zhone denies the allegations of this paragraph.

COUNT XXX – INFRINGEMENT OF U.S. PATENT NO. 8,335,956

190. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

191. Zhone admits that on its face United States Patent No. 8,335,956 (“the ’5,956 Patent”) is entitled “Packet Retransmission and Memory Sharing” and bears an issue date of December 18, 2012. Zhone further admits that Exhibit 30 to the Complaint purports to be a copy of the ’5,956 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

192. Zhone denies the allegations of this paragraph.

193. Zhone denies the allegations of this paragraph.

194. Zhone denies the allegations of this paragraph.

195. Zhone denies the allegations of this paragraph.

COUNT XXXI – INFRINGEMENT OF U.S. PATENT NO. 8,468,411

196. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

197. Zhone admits that on its face United States Patent No. 8,468,411 (“the ’411 Patent”) is entitled “Packet Retransmission” and bears an issue date of June 18, 2013. Zhone further admits that Exhibit 31 to the Complaint purports to be a copy of the ’411 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

198. Zhone denies the allegations of this paragraph.

199. Zhone denies the allegations of this paragraph.

200. Zhone denies the allegations of this paragraph.

201. Zhone denies the allegations of this paragraph.

COUNT XXXII – INFRINGEMENT OF U.S. PATENT NO. 8,407,546

202. Zhone incorporates by reference its responses to Paragraphs 1-15 as though set forth fully herein.

203. Zhone admits that on its face United States Patent No. 8,407,546 (“the ’546 Patent”) is entitled “Packet Retransmission and Memory Sharing” and bears an issue date of March 26, 2013. Zhone further admits that Exhibit 32 to the Complaint purports to be a copy of the ’546 Patent. Except as admitted, Zhone lacks sufficient knowledge or information to form a belief as to the remaining allegations in this paragraph and on that basis denies them.

204. Zhone denies the allegations of this paragraph.

205. Zhone denies the allegations of this paragraph.

206. Zhone denies the allegations of this paragraph.

207. Zhone denies the allegations of this paragraph.

PRAYER FOR RELIEF

Zhone denies all allegations contained in the Prayer for Relief of the First Amended Complaint and denies that TQ Delta is entitled to any of the relief requested therein or to any other relief whatsoever from Zhone.

* * *

AFFIRMATIVE AND OTHER DEFENSES

Zhone hereby asserts the following separate, distinct, and non-exclusive affirmative and other defenses to the claims and allegations contained in the First Amended Complaint, undertaking the burden of proof only as to those defenses deemed affirmative defenses by law, regardless of how such defenses are denominated herein. Zhone's investigation of its defenses is continuing, and Zhone reserves the right to seek leave to amend its Answer to plead additional defenses or to supplement its existing defenses.

FIRST DEFENSE – FAILURE TO STATE A CLAIM

208. The First Amended Complaint fails to state any claim against Zhone upon which relief can be granted.

SECOND DEFENSE – NON-INFRINGEMENT

209. Zhone does not infringe and has not infringed any valid and enforceable claim of the '008 Patent, '041 Patent, '627 Patent, '721 Patent, '610 Patent, '427 Patent, '881 Patent, '028 Patent, '706 Patent, '511 Patent, '705 Patent, '784 Patent, '430 Patent, '686 Patent, '412 Patent, '2,956 Patent, '379 Patent, '337 Patent, '778 Patent, '958 Patent, '835 Patent, '753 Patent, '730 Patent, '382 Patent, '381 Patent, '882 Patent, '048 Patent, '473 Patent, '890 Patent, '5,956 Patent, '411 Patent, or '546 Patent (the "Asserted Patents"), either literally or under the doctrine of equivalents. Zhone has no liability for alleged infringement of the Asserted Patents.

THIRD DEFENSE – INVALIDITY

210. The Asserted Patents are invalid and unenforceable for failure to comply with the requirements of 35 U.S.C. § 101, *et seq.*, including but not limited to 35 U.S.C. §§ 101, 102, 103, 112 and/or 116.

FOURTH DEFENSE – EXHAUSTION

211. TQ Delta's claims for relief and prayer for damages are barred by the doctrine of exhaustion.

FIFTH DEFENSE – WAIVER, LACHES, AND ESTOPPEL

212. TQ Delta's claims for relief, in whole or in part, are barred by the doctrines of waiver, laches, and/or estoppel. At a minimum, TQ Delta is barred from recovering any pre-suit damages as a result of waiver, laches, and/or estoppel. Further, TQ Delta is estopped from asserting one or more of the claims of the Asserted Patents in such a way as to allegedly cover Zhone's activities by reason of statements and claim amendments made by or on behalf of the applicant to the United States Patent and Trademark Office or narrowing amendments made during the prosecution of the applications that led to the issuance of the Asserted Patents.

SIXTH DEFENSE – LIMITATION ON DAMAGES

213. TQ Delta's claims for relief and prayer for damages is limited under 35 U.S.C. §§ 286–288.

SEVENTH DEFENSE – NO INJUNCTIVE RELIEF

214. TQ Delta is not entitled to injunctive relief because, at a minimum, TQ Delta has an adequate remedy at law and because TQ Delta's claims otherwise fail to meet the requirements for such relief, including at least that TQ Delta will not suffer irreparable harm and public policy concerns weigh against any injunctive relief.

EIGHTH DEFENSE – INCONVENIENT VENUE

215. Venue in this judicial district is inconvenient.

NINTH DEFENSE – OTHER

216. Zhone provides notice that it intends to rely upon any additional defenses that become available or apparent during discovery, and reserves its right to amend this pleading and to assert such additional defenses as discovery proceeds.

WHEREFORE, Zhone denies that it infringes or has infringed any valid and enforceable claim of the Asserted Patents and further denies that TQ Delta is entitled to any judgment against Zhone whatsoever. Zhone requests that TQ Delta's First Amended Complaint be dismissed with prejudice, that judgment be entered for Zhone, and that Zhone be awarded its attorney fees, expenses, and costs incurred in defending against TQ Delta's lawsuit, together with such other relief the Court deems appropriate.

* * *

COUNTERCLAIMS

Counterclaimant Zhone, Inc. ("Zhone"), by and through its counsel, hereby counterclaims and alleges against Counterclaim Defendant TQ Delta, LLC ("TQ Delta") as follows:

1. Zhone realleges and incorporates by reference as though fully set forth herein the allegations of Paragraphs 1-216 of its Answer and Affirmative and Other Defenses to the First Amended Complaint for Patent Infringement filed by TQ Delta.

THE PARTIES

2. Zhone is a California corporation with its principal place of business at 7195 Oakport Street, Oakland, CA 94621.

3. TQ Delta purports to be a Texas limited liability company with its principal place of business at 805 Las Cimas Parkway, Suite 240, Austin, Texas 78746.

4. In the First Amended Complaint, TQ Delta alleges that Zhone has infringed one or more claims of United States Patent Nos. 8,090,008 ("the '008 Patent"), 8,073,041 ("the '041

Patent”), 7,292,627 (“the ’627 Patent”), 7,471,721 (“the ’721 Patent”), 8,218,610 (“the ’610 Patent”), 8,355,427 (“the ’427 Patent”), 7,453,881 (“the ’881 Patent”), 7,809,028 (“the ’028 Patent”), 7,978,706 (“the ’706 Patent”), 8,422,511 (“the ’511 Patent”), 7,796,705 (“the ’705 Patent”), 7,889,784 (“the ’784 Patent”), 7,835,430 (“the ’430 Patent”), 7,570,686 (“the ’686 Patent”), 8,238,412 (“the ’412 Patent”), 8,432,956 (“the ’2,956 Patent”), 7,451,379 (“the ’379 Patent”), 8,516,337 (“the ’337 Patent”), 7,979,778 (“the ’778 Patent”), 7,925,958 (“the ’958 Patent”), 8,462,835 (“the ’835 Patent”), 7,978,753 (“the ’753 Patent”), 6,445,730 (“the ’730 Patent”), 8,437,382 (“the ’382 Patent”), 7,836,381 (“the ’381 Patent”), 7,844,882 (“the ’882 Patent”), 8,276,048 (“the ’048 Patent”), 8,495,473 (“the ’473 Patent”), 7,831,890 (“the ’890 Patent”), 8,335,956 (“the ’5,956 Patent”), 8,468,411 (“the ’411 Patent”), 8,407,546 (“the ’546 Patent”) (collectively the “Asserted Patents”). TQ Delta purports to be the owner by assignment of the Asserted Patents.

JURISDICTION AND VENUE

5. This is an action for declaratory relief for which this Court has jurisdiction under 28 U.S.C. §§ 1331, 1338, 2201, and 2202.

6. By filing its lawsuit against Zhone, TQ Delta has consented to the personal jurisdiction of this Court.

7. Zhone maintains its objection that this District is not the most appropriate or convenient forum in which to lay venue in this case. To the extent the underlying action brought by TQ Delta against Zhone proceeds in this District, then venue as to these counterclaims is proper under 28 U.S.C. §§ 1391(c) and 1400(b) because TQ Delta has consented to the personal jurisdiction of this Court and because the facts and circumstances alleged in these counterclaims are related to the facts and circumstances alleged in the First Amended Complaint.

8. In the First Amended Complaint, TQ Delta asserts claims against Zhone for infringement of the Asserted Patents and asserts that the Asserted Patents are valid.

9. In Zhone's Answer and Affirmative and Other Defenses to TQ Delta's Complaint, Zhone denies TQ Delta's claims of infringement of the Asserted Patents and asserts that the Asserted Patents are invalid.

10. An actual controversy has arisen and now exists between Zhone and TQ Delta as to the non-infringement and invalidity of the Asserted Patents.

**COUNTERCLAIM I – DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF
THE ASSERTED PATENTS**

11. Zhone realleges and incorporates by reference the allegations of Paragraphs 1-10 of its Counterclaims as though fully set forth herein.

12. By its First Amended Complaint, TQ Delta alleges that Zhone has infringed and continues to infringe each of the Asserted Patents.

13. TQ Delta has not explained the basis for asserting that Zhone infringes any claims of the Asserted Patents. It has not identified even one claim in any of the Asserted Patents and explained how any particular Zhone product could contain or practice each element of that patent claim. Thus, TQ Delta has provided no basis for Zhone to suspect that it infringes any valid claims of the Asserted Patents.

14. Zhone denies TQ Delta's claims of infringement of each of the Asserted Patents, and therefore an immediate, real, and justiciable controversy exists between Zhone and TQ Delta regarding the non-infringement of the claims of each of the Asserted Patents.

15. Accordingly, Zhone hereby seeks entry of a declaratory judgment that it does not infringe any asserted claim of any Asserted Patent.

**COUNTERCLAIM II – DECLARATORY JUDGMENT OF INVALIDITY OF
THE ASSERTED PATENTS**

16. Zhone realleges and incorporates by reference the allegations of Paragraphs 1-15 of its Counterclaims as though fully set forth herein.

17. TQ Delta alleges that each claim of each Asserted Patent is valid.

18. Zhone denies that any claim of any Asserted Patent is valid and asserts that each asserted claim of each Asserted Patent is invalid for failure to comply with the requirements of 35 U.S.C. § 101 *et seq.*, including without limitation each of the requirements in 35 U.S.C. §§ 101, 102, 103, 112, and/or 116.

19. An immediate, real, and justiciable controversy exists between Zhone and TQ Delta regarding the validity of the claims of the Asserted Patents.

20. Accordingly, Zhone hereby seeks entry of a declaratory judgment that the claims of Asserted Patents are invalid.

JURY DEMAND

Zhone hereby demands trial by jury of all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Zhone prays that this Court:

- (a) Dismiss the First Amended Complaint with prejudice;
- (b) Find that TQ Delta is not entitled to any relief, whether in law, in equity, or otherwise, from its lawsuit against Zhone;
- (c) Enter judgment that Zhone has not infringed and does not infringe any valid and enforceable claim of any of the Asserted Patents;
- (d) Enter judgment that each and every claim of each of the Asserted Patents is invalid;
- (e) Find this case exceptional and award Zhone its costs and expenses, including reasonable attorneys' fees, in accordance with the provisions of 35 U.S.C. § 285 or otherwise; and
- (f) Award Zhone any other relief, in law and in equity, to which the Court finds Zhone is justly entitled.

Respectfully Submitted,

January 10, 2013

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